

~Demographics & Taxes~

North Dakota Demographics Conference 2018

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20 March 2018

Choice of Level

- Macro or global view

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- State level view

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- State level view
- City or County view

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- State level view
- City or County view
- All are important and potentially related but for today we are going with the state level view mostly.

Fiscal Policies

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- The tax and spending decisions of state and local government depend on the income, wealth, and spending of people living in the area.
- There is often a pattern to some of these variables that maps to age, for example income tends to go up with age, and so should taxes.
- The result is a connection between the age distribution of the population and the aggregate income in a state or local area.

Private sector interest

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- Understanding spending patterns by age and other demographics are vital to successful marketing and sales.
- Not a primary focus for this talk, but the same information can be used for those purposes.

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- The demographic situation, maybe less well understood, is not a complete mystery either.
- Connections between the two are crucial to fiscal policy decisions at the state and local level.

Changes in the age structure

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- These workers were here for jobs in the oil patch and related to the oil patch.

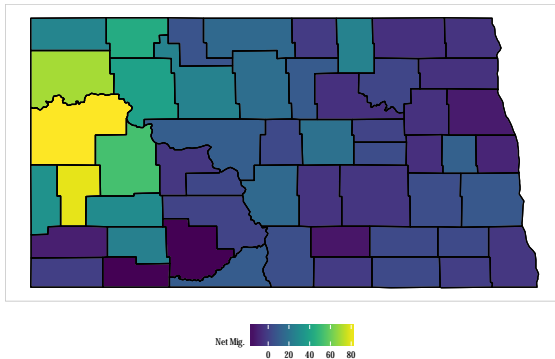
Changes in the age structure

- The Bakken oil boom created an influx of workers and population.
- These workers were here for jobs in the oil patch and related to the oil patch.
- The net migration effects were quite drastic.

Net Migration

2011 County Net Migration Rate

Net Migration per 1,000 people

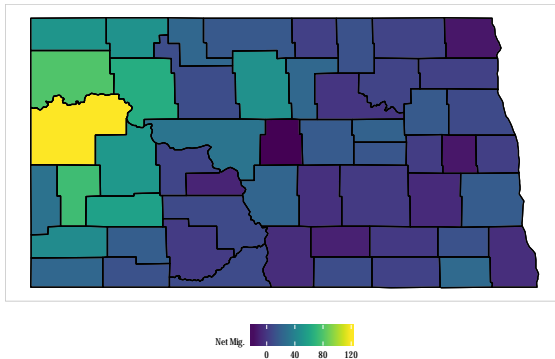


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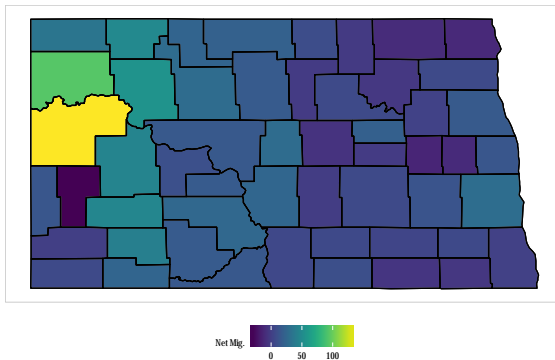


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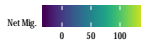
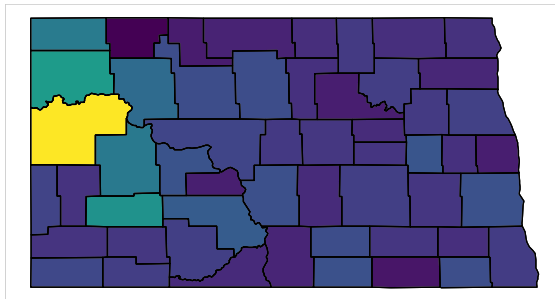


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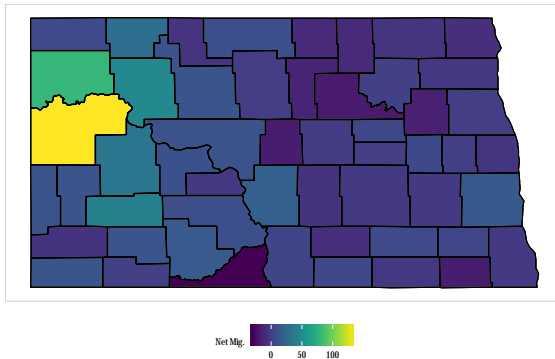


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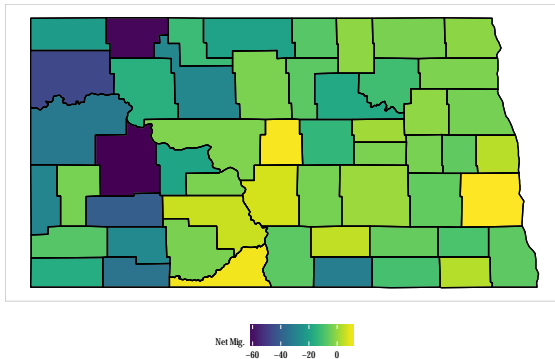


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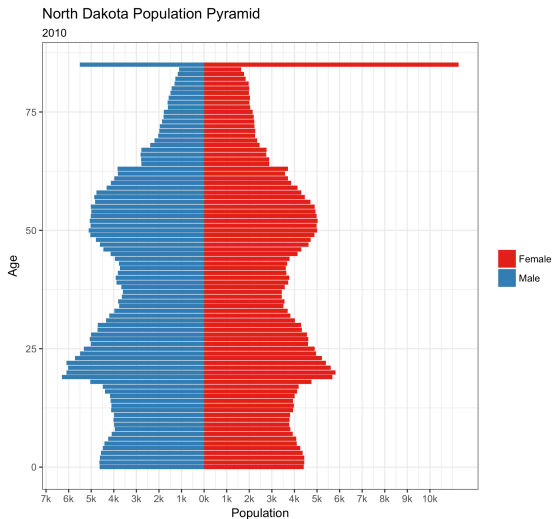
Implications of Net Migration

- The labor force implications are well known.

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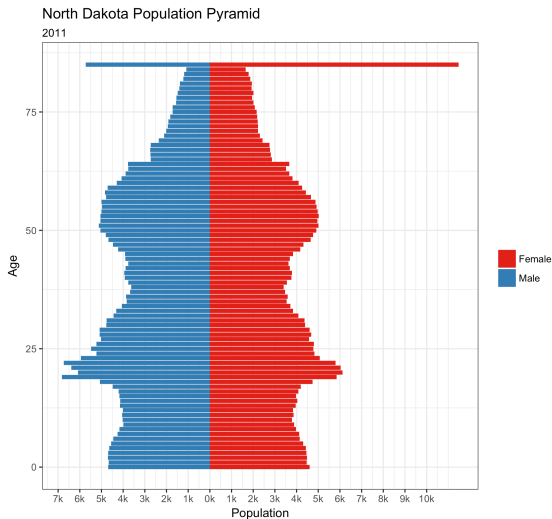
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- We can see the effects of this net migration gain in the population pyramids as well.

Age Structure



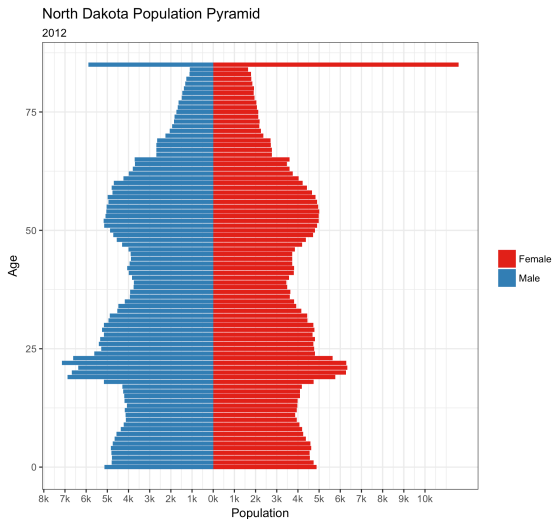
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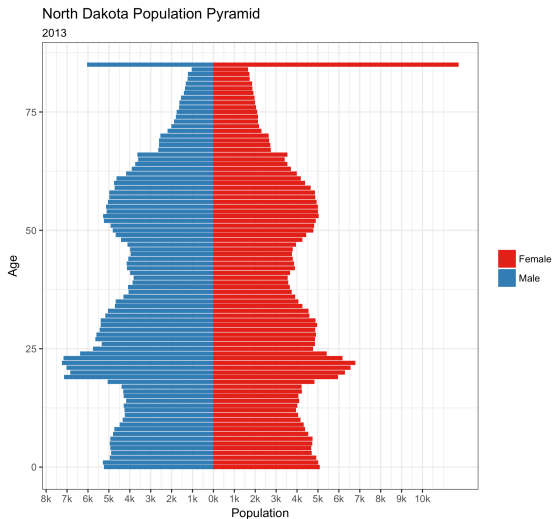
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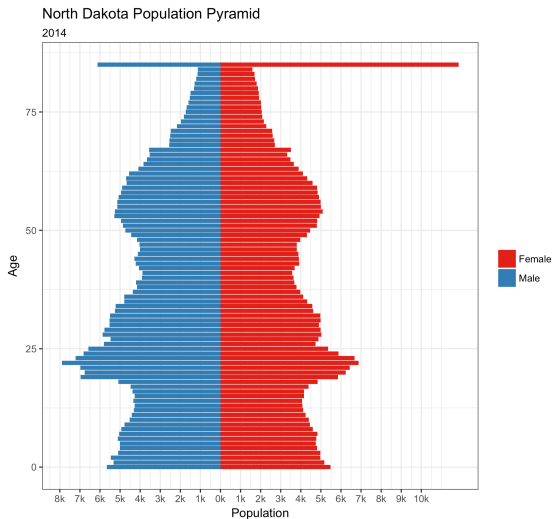
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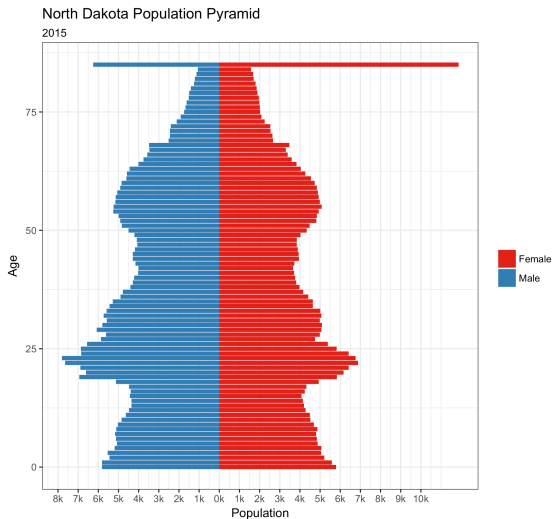
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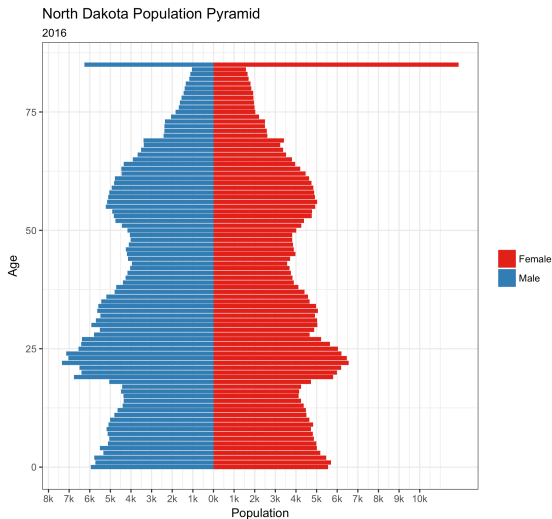


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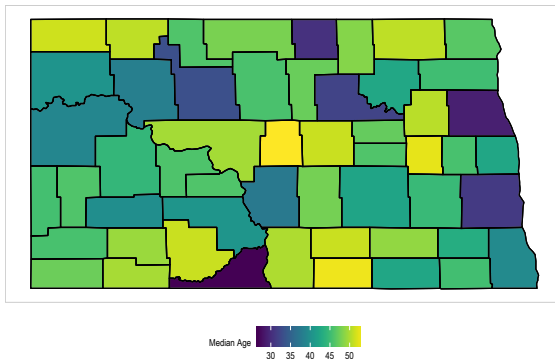
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Age consequences

- It may be difficult to see in the pyramids, but Bakken oil is something of a fountain of youth for ND.
- So long as the wells are pumping I suppose.
- The breakdown of the age changes for counties is pretty revealing too.

Median Age, 2010

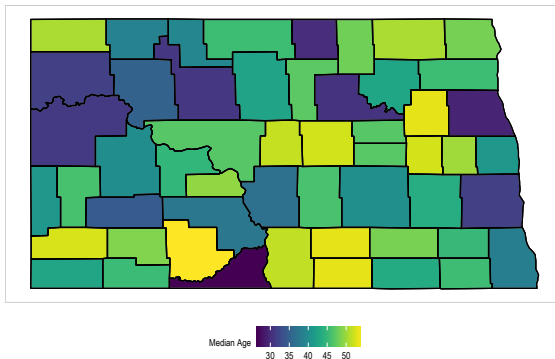
2010 County Median Age



Data: Census.gov

Median Age, 2016

2016 County Median Age



Data: Census.gov

ND View

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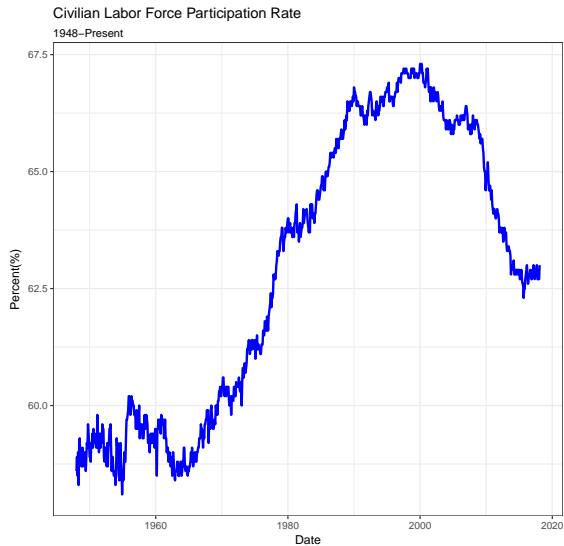
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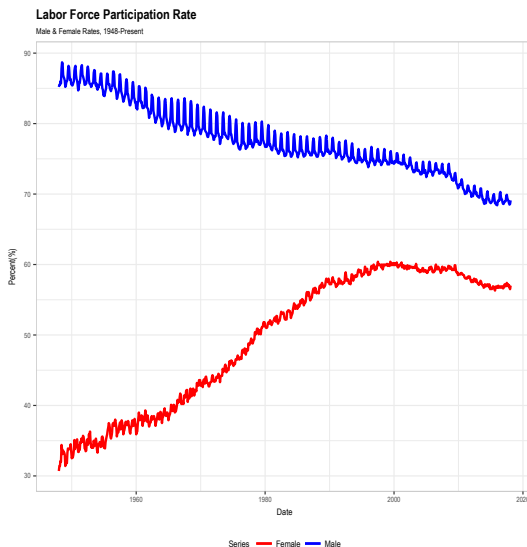
- I hear many questions about labor force participation.
- It is a concern, but there are demographic (age related) reasons for current trends.
- Other factors include economic issues such as the Great Recession.
- Take a moment to consider the US picture.

Labor Force Participation



Data: BLS.gov

Labor Force Participation



Two pieces of North Dakota Data

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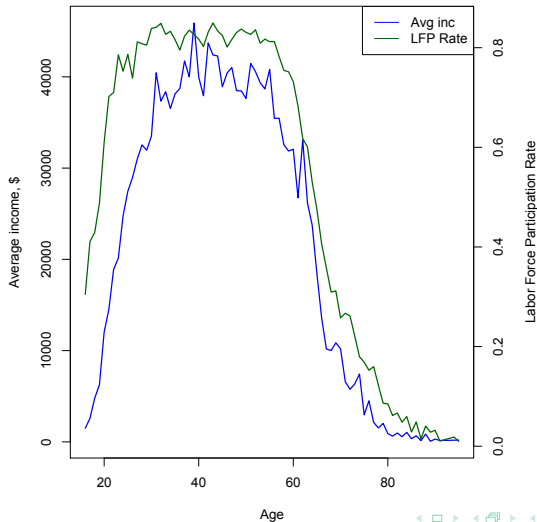
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- What about the age breakdown for average income (wages and salary)?

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- The age breakdown of labor force participation is probably something you can guess.
- What about the age breakdown for average income (wages and salary)?
- Let's look at them paired together.

Income & Labor Force Participation



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- These are also tied to age.
- There is a great amount of variability to this and we really only have national averages.
- Here is a breakdown of typical shares of after tax income by a few age categories.

Shares

Table 1: Shares of after tax income for age groups

Category	Under 25	25-34	35-44	45-54	55-64	65-74	75+
Food	0.098	0.117	0.110	0.106	0.107	0.129	0.140
Housing	0.244	0.316	0.289	0.265	0.275	0.328	0.431
Healthcare	0.025	0.049	0.051	0.059	0.081	0.117	0.177
S&L Taxes	627	1866	2819	3208	2511	1070	198

Tax & Age Implications

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- I did not include variances but those demonstrate there is a real mix of what different ages spend in different categories.
- There is also a need to consider meeting the entire lifecycle needs of residents.
- You cannot serve only one age group.

Conclusions

- People count when it comes to taxes and spending, but the age structure matters too.

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- Age structure matters to the state in terms of tax revenue generation, but there needs to be a consideration of cohort and cohort replacement as you go forward in time.

Conclusions

- People count when it comes to taxes and spending, but the age structure matters too.
- There is a need to have people working, but looking at participation in ND and unemployment and that is not a huge problem.
- Age structure matters to the state in terms of tax revenue generation, but there needs to be a consideration of cohort and cohort replacement as you go forward in time.
- Otherwise you end up with funding gaps for items like public pensions, e.g. Detroit.

Thank you!

- Thanks for your time and attention and I hope I answered some of your questions.

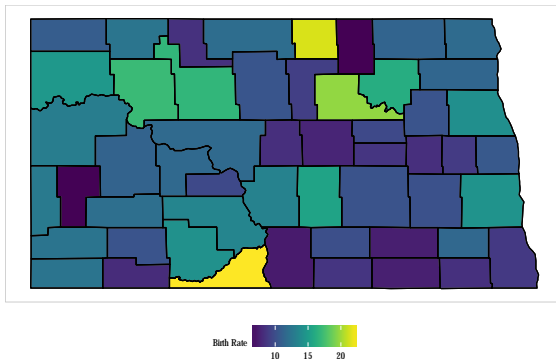
Map Appendix

- The following maps may not be needed for presentation purposes but are included just in case.

Birth Rates

2011 County Birth Rates

Births per 1,000 people

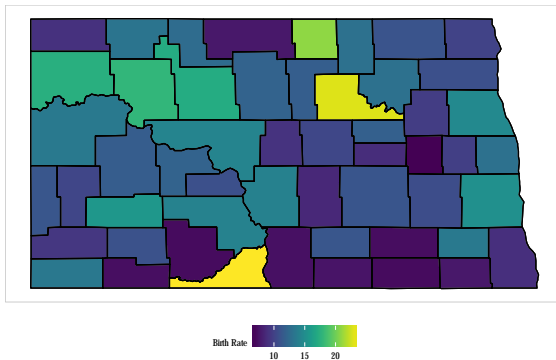


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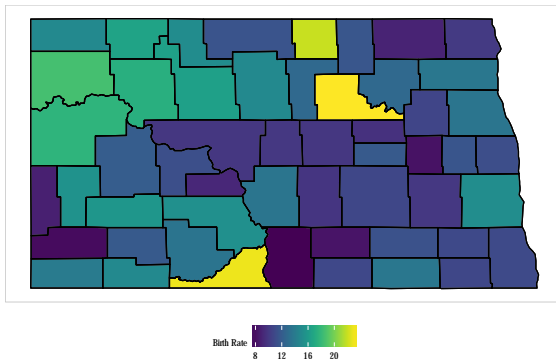


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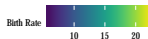
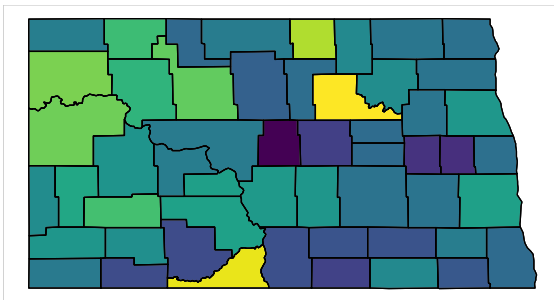


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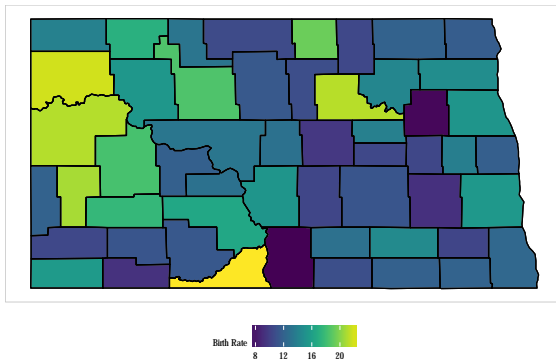


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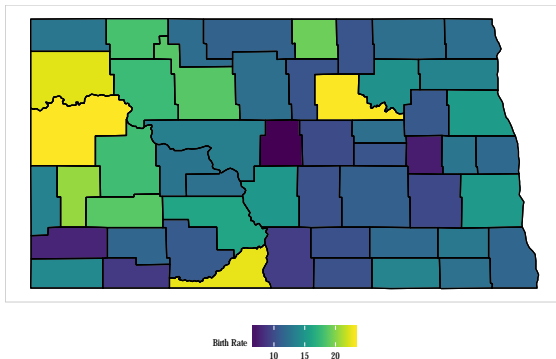


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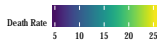
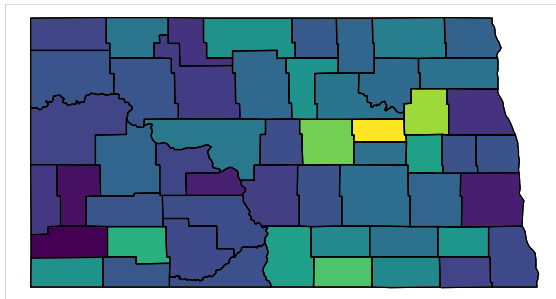


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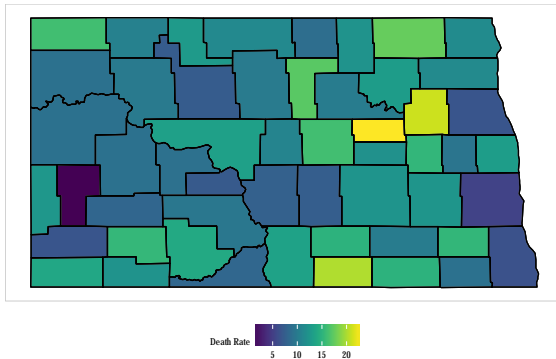


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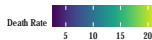
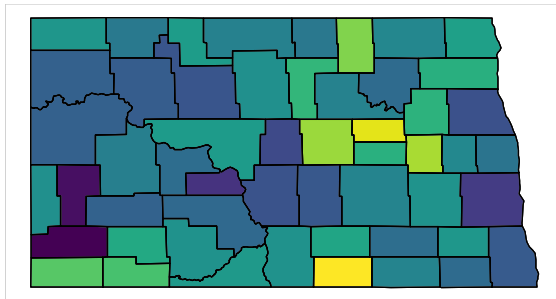


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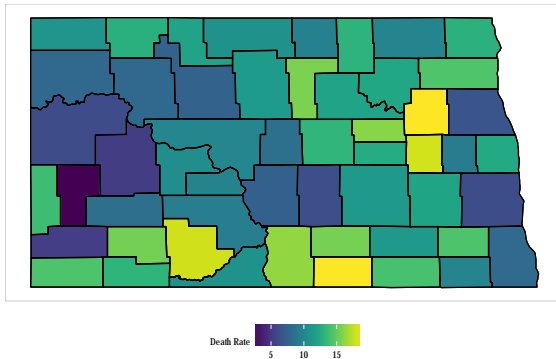


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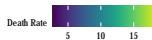
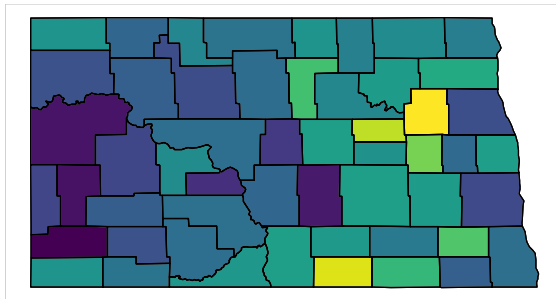


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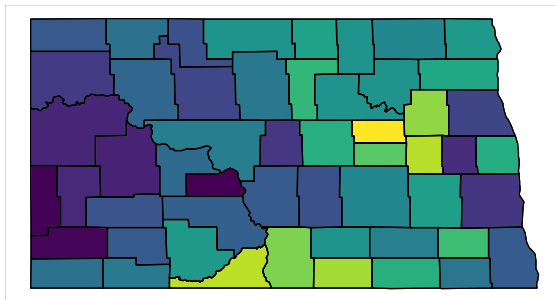


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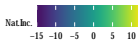
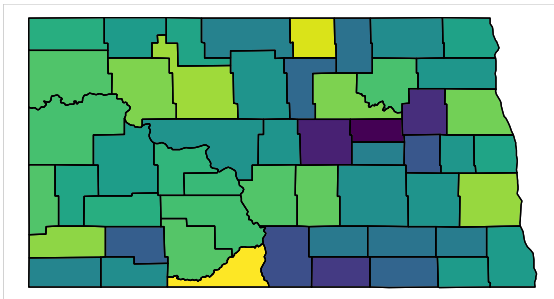


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Natural Increase

2011 County Rate of Natural Increase

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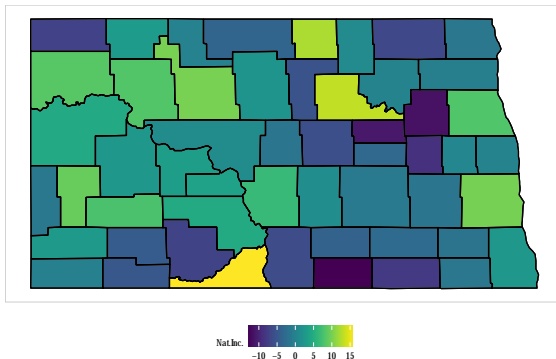


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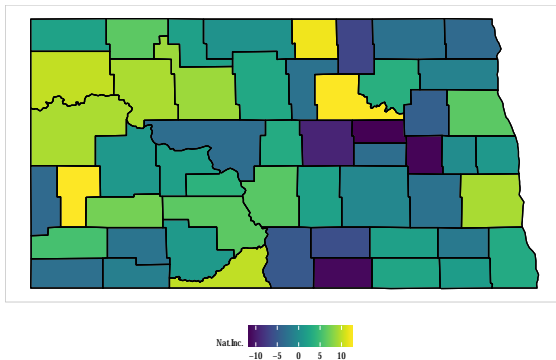


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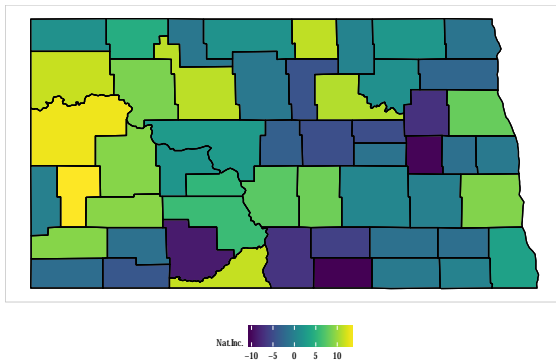


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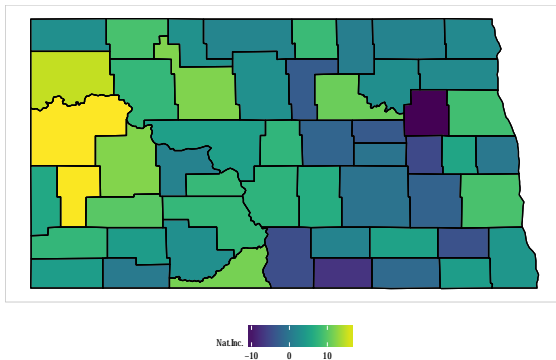


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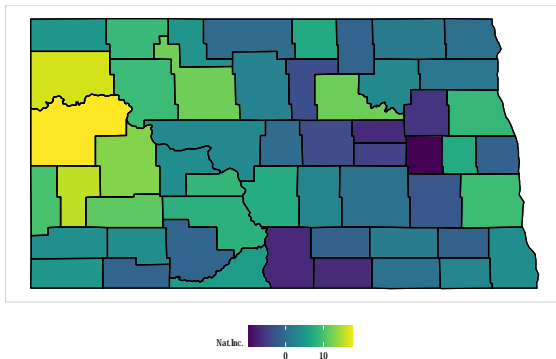


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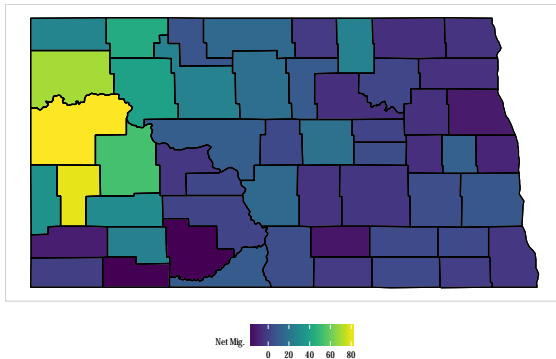


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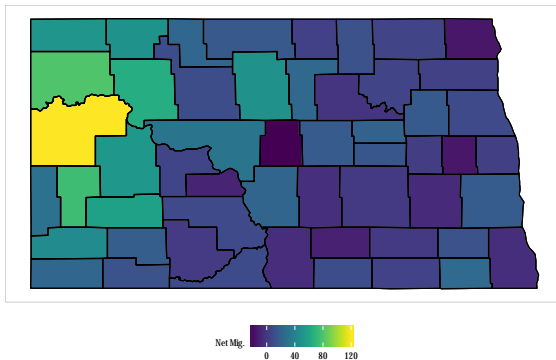


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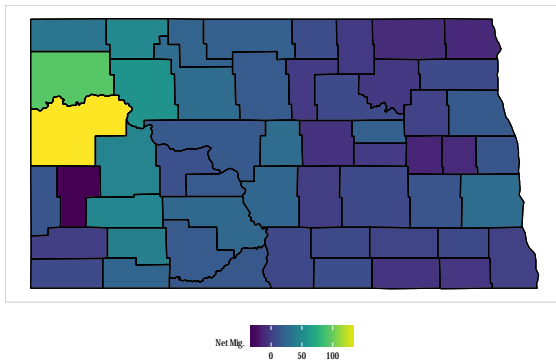


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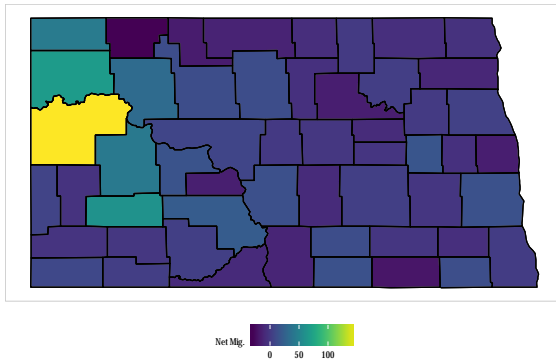


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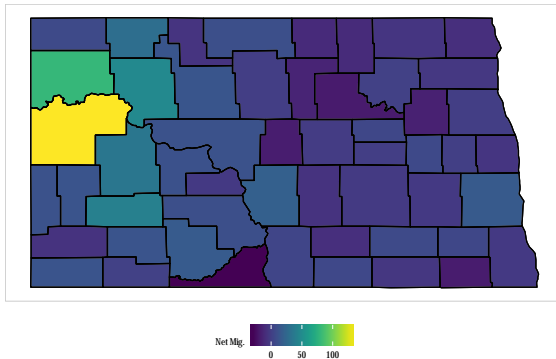


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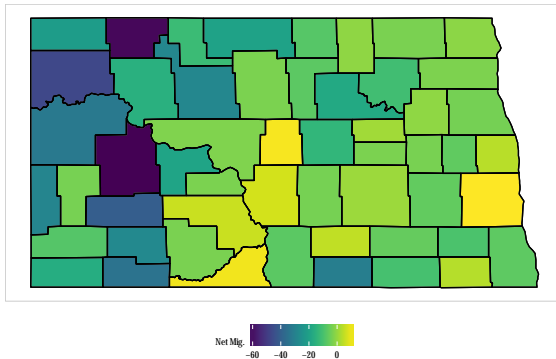


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